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CENTRAL INTELLIGENCE AGENCY

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SUBJECT Potential for Research and Development in Chemistry

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1. Between 1930 and 1937 the National Tsing Hua University developed a very strong department of chemistry. It was patterned after the department at the University of Wisconsin, 50X1 Students were admitted from all over China under a strongly competitive examination system, 50X1 were able to subject these brilliant 50X1 and eager students to a stringent discipline in chemistry, until the BS at Tsing Hua with its required thesis became the academic equivalent of the MS at the average US university. Then, as the National University system spread to each of the provinces, the Tsing Hua chemistry curriculum became nationwide. Consequently, there are a great many well-trained chemists in China, many of whom added to their good basic training by attendance at graduate schools in the US and Europe. 50X1

2. Since 1937 China has been so exhausted by her long struggle against Japan and by civil strife that significant research and development in the field of chemistry has been negligible. Most of the laboratories, institutes, and industries undertaking research in chemistry were taken over by the Japanese after 1937 and never had a chance to recover. However, in terms of trained technicians and raw materials, considerable potential exists.

3. The outstanding chemist in China today is Chang Tsin Lien 張青蓮, professor of inorganic chemistry at Tsing Hua University. He got his PhD at the University of Berlin in 1936 or 37 where he worked under Prof Riessenfeld, the atomic scientist. In a single year Chang published 11 papers in German journals on the subject of heavy hydrogen peroxide. Chang is an excellent teacher, and in addition to his work at Tsing Hua he spent some time with the Academia Sinica.

4. Liquid fuels. With practically inexhaustible supplies of coal in North China, liquefaction processes can provide an abundant supply of liquid fuels. China has had considerable experience in the production of benzine, toluene and phenol.

5. High polymer materials. Very little attention has been paid to synthetic rubber in China because of the proximity and easy access to the source of natural rubber. The production of synthetic fibers was just getting a good

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start before the wars disrupted the industry. Here again the potential is tremendous because of the abundance of raw materials.

6. Explosives. Although most munitions were formerly imported from Japan, Czechoslovakia and Italy, each major warlord established arsenals in his own domain. Guncotton is well within the capabilities of these arsenals, but it is doubtful whether mannite is in production.

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